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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,113	07/31/2001	Suman K. Patel	56904US002	3453

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EXAMINER

EGAN, BRIAN P

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 04/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,113

Applicant(s)

PATEL ET AL.

Examiner

Brian P. Egan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 29-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Claims 29-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method of making an adhesive article, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

Claim Objections

2. Claim 11 is objected to for the phrase, "the adhesive is a heat-stable." The Examiner suggests amending Claim 11 as was done in Claim 25 to read, "the adhesive is a heat-stable adhesive." Appropriate correction and/or clarification are required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 2 and 11 are rejected under 35 U.S.C. 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as his invention. The Applicant has amended Claim 2 to read, "The article of Claim 1 wherein the adhesive is a heat-stable adhesive." The Examiner is of the view that the Applicant erroneously amended Claim 2 instead of Claim 11 since Claim 2 originally read, "The article of Claim 1 wherein said article exhibits good roll stability." The Examiner suggests amending Claim 2 for a second time such that it reads as it did when originally filed and amending Claim 11 to read,

"The article of Claim 1 wherein the adhesive is a heat-stable adhesive." Proper clarification and/or correction are required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8, 11-14, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/14281 in view of JP 59149970 (hereinafter JP '970) and Kessel et al. (#5,432,006).

WO '281 teaches an article comprising an adhesive layer disposed between a substrate and a liner wherein the liner has an adhesive-facing surface releasably adhered to the adhesive (p.1, lines 8-10). Both the substrate and liner exhibit thermal expansion and contraction (p.3, line 31 to p.4, line 4). The expansion and contraction of the liner ranges from substantially the same as to greater than the substrate (p.14, lines 7-12). The adhesive article exhibits good roll stability (p.6, lines 26-28). The adhesive is a heat-stable (p.12, lines 23-24), crosslinked (p.12, line 19), acrylate-based adhesive (p.12, lines 11-12). WO '281 does not explicitly state that the adhesive is substantially free of photoinitiator, nor, however, does WO '281 state that the adhesive comprises photoinitiator. Therefore, the adhesive does not comprise photoinitiator. The burden is upon the applicant to prove otherwise. Although WO '281 does not explicitly state whether the substrate has a force per unit width of at least two to three times greater than the liner (and 1×10^4 Newtons/cm greater than the liner), WO '281 teaches that the selection of

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the relative amounts of thermoplastic elastomeric olefin (TEO) and other polymers in the release film composition are determined by the end properties needed for the release liner, e.g. tensile strength, tear resistance, etc. (p.7, lines 20-22). Therefore, it would have been obvious through routine experimentation to one of ordinary skill in the art at the time applicants invention was made to have modified the composition of the release liner depending on the desired end product in order to create an adhesive article wherein the substrate has a force per unit width of at least 1×10^4 Newtons/cm greater than the liner. Furthermore, it would have been obvious to modify the composition of the release liner such that the release liner comprises a force per unit width of at least 1×10^4 Newtons/cm less than the substrate since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

The Applicant's contend that since the liner of WO '281 fails to demonstrate any correlation between thermal expansion and roll stability, shrinkage is not equivalent to thermal expansion as alleged by the Examiner. The Examiner does not agree with this reasoning. The Applicant's provide several variables existent between the varying samples (see p. 21 of Applicant's disclosure), including release liner thickness, coefficient of friction, and differences in release coatings. The evidence presented in Figure 1 and Table 2 fails to explicitly demonstrate that expansion and contraction is not equivalent to shrinkage – the differences in film thickness, COF, and release coatings are equally attributable to the difference in roll stability. Therefore, the expansion and contraction of the WO '281 release liner is considered equivalent to the shrinkage present in the Applicant's claimed invention unless the difference can

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be explicitly distinguished while keeping the other variables constant (film thickness, COF, and release coating).

Even if the Applicant's can explicitly demonstrate a difference between the expansion and contraction properties of WO '281 in relation to the presently claimed invention, JP '970 teaches that the shrinkage properties of a substrate and a liner in an adhesive film may be modified such that the release liner exhibits shrinkage properties 0-30% greater than that of the substrate (see Abstract). JP '970 teaches the modification of shrinkage properties (which are attributable to the material selection of the substrate and release liner) for the purpose of eliminating curling from both printing and environmental conditions (see Abstract) – thereby implicitly teaching good roll stability of the substrate. It would have been obvious through routine experimentation to one of ordinary skill in the art at the time Applicant's invention was made to have modified the shrinkage properties of the substrate and release liner in an adhesive article such that the shrinkage of the release liner is 0-30% greater than that of the substrate for the purpose of eliminating curling from both printing and environmental conditions as taught by JP '970.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified WO '281 by modifying the shrinkage properties of the substrate and release liner as taught by JP '970 in order to eliminate curling from both printing and environmental conditions.

WO '281 is silent with regards to the coefficient of friction of the adhesive facing surface of the release liner. WO '281 does teach, though, that the preferred embodiment of the release liner comprises a TEO core and a release layer or coating comprising a release material

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comprising polyethylene, fluorocarbon, polypropylene, or a combination thereof (p.3, lines 12-14). WO '281 is also silent as to whether the release coating composition comprises a cure-on-demand moisture curable composition having reactive silane functionality and an acid generating material that is free of ammonium salt.

Kessel et al., however, teach a silicone release coating wherein the coefficient of friction is at least 0.50 (Col. 9, Table 1) and the composition comprises a cure-on-demand moisture curable composition having reactive silane functionality and an acid generating material (Col. 5, lines 7-24; Col. 5, line 68 to Col. 6, line 3). Although Kessel et al. does not state that the composition is free of ammonium salt, Kessel et al. never state the existence of ammonium salt and thus the composition is inherently absent of ammonium salt. The burden is upon the applicant to prove otherwise. Kessel et al. teach the aforementioned release composition for the purpose of providing a release coating that is slippery in feel and useful as a release coating for adhesive substrates (see Abstract; Col. 2, lines 37-39). It would have been obvious through routine experimentation to one of ordinary skill in the art to provide an adhesive article with a release liner exhibiting a coefficient of friction greater than 0.50 with a cure-on-demand moisture curable composition for the purpose of providing a release coating that is slippery in feel and useful as a release coating for adhesive substrates as taught by Kessel et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicants invention was made to have modified WO '281, motivated by the desire to comprise a silicone release coating, to coat the release liner with a cure-on-demand moisture curable composition exhibiting a coefficient of friction of greater than 0.50 as taught by Kessel et al. in

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order to provide a release coating that is slippery in feel and useful as a release coating for adhesive substrates.

7. Claims 9-10, 15-18, and 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO '281 in view of JP '970 and Kessel et al. ('006), and further in view of Rega et al. (#6,054,208).

WO '281, JP '970, and Kessel et al. teach an adhesive article as detailed above. WO '281 further teaches that the release liner can be used for any adhesive substrate (p.2, lines 19-20; p.12, lines 3-4; p.14, lines 17-19) although the aforementioned prior art fails to explicitly state that the substrate can be a retroreflective substrate.

Rega et al., however, teach an adhesive article comprising a release liner (Fig. 2, #17), an adhesive layer (Fig. 2, #16), and a retroreflective layer (Fig. 1, #10). The retroreflective substrate comprises acrylic (Col. 16, line 53 to Col. 17, line 5), polyolefins (Col. 17, lines 10-13), and polymethylmethacrylate (Col. 21, lines 10-12), and further comprises encapsulated lens constructions (Col. 20, lines 10-12). Rega et al. teach the use of retroreflective sheeting for the purpose of providing an adhesive article that can be applied to wood, plastic, or metal, and used to form highway signs, license plates, safety signs, and reflectors (Col. 1, lines 58-65). It would have been obvious through routine experimentation to one of ordinary skill in the art at the time applicants invention was made to have provided multiple different substrates including a retroreflective substrate for an adhesive article depending on the desired end product for the purpose of providing an adhesive article that can be applied to wood, plastic, or metal, and used to form highway signs, license plates, safety signs, and reflectors as taught by Rega et al.

Therefore, it would have been obvious to one of ordinary skill in the art to have modified the aforementioned prior art, depending on the desired end product, to include a retroreflective substrate as taught by Rega et al. in order to provide an adhesive article that can be applied to wood, plastic, or metal, and used to form highway signs, license plates, safety signs, and reflectors.

Response to Remarks

8. The 35 U.S.C. 112, second paragraph rejections in relation to the terms “exhibits shrinkage” (Claims 1 and 22-23) and “substantially free of photoinitiator” (Claims 14 and 38) from the previous office action have been withdrawn by the Examiner pursuant to the Applicant’s remarks with respect to p.7, lines 1-9 and p.9 of the originally filed disclosure.

With respect to the 35 U.S.C. 112, second paragraph rejection of “good roll stability,” the Examiner has withdrawn the rejection only because the limitation no longer exists pursuant to the Applicant’s amended Claim 2. Had the limitation remained, however, the Examiner would have maintained the rejection. The Applicants directed the Examiner to p.19 in defining “good roll stability.” The test for roll stability is entirely subjective, however, and defined in relative terms, i.e., “smooth,” “slight roughness,” “very rough,” “distinct golf ball effect,” and “distorted [cells]... [and] large wrinkles.” An extremely fine line distinguishes each rating from one another. A surface considered to be “slightly rough” by one could very well be viewed by another as a surface comprising a “distinct golf ball effect.” Therefore, the test as a whole is vague and indefinite. If the Applicant’s insert the “good roll stability” limitation back into the claims, proper clarification will be required.

The Examiner has maintained an objection of the phraseology of Claim 11 and suggests adding "adhesive" after "heat-stable." Pursuant to the Applicant's amended Claim 25, the Examiner has withdrawn the 35 U.S.C. 112, second paragraph rejection from the previous office action.

With respect to the 35 U.S.C. 103(a) rejection of claims 1-8, 11-14, and 19-20, the Examiner first requests the Applicant to observe the new grounds of rejection presented above with regards to newly presented Japanese Patent 59149970. Second, despite the failure of Kessel et al. to explicitly teach the use of the release coating on liners that exhibit shrinkage, the test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971). Since WO '281 teaches that the preferred embodiment of the release liner comprises a TEO core and a release layer or coating and Kessel et al. teach a silicone release coating wherein the coefficient of friction is at least 0.50 and the composition comprises a cure-on-demand moisture curable composition having reactive silane functionality and an acid generating material wherein the liner is explicitly used for adhesive substrates, it would have been obvious to one of ordinary skill in the art, based on the teachings of both WO '281 and Kessel et al. taken as a whole, to modify WO '281 by using the release coating on the release liner as detailed by Kessel et al.

With respect to the 35 U.S.C. 103(a) rejection of claims 9-10, 15-18, and 21-28, the Examiner again requests the Applicant to observe the new grounds of rejection presented above with regards to newly presented Japanese Patent '970. Second, the test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, id. Thus, despite Kessel et al.'s teaching that the coefficient of

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friction may extend below 0.30, Kessel et al. explicitly teach that the coefficient of friction may be modified (depending on the desired end product) by modifying the concentrations of HDMS-terminated PDMS or by replacing the VDMS-terminated PDMS with lower molecular weight VDMS-terminated PDMS (Col. 9, line 39 to Col. 10, line 2). Since Rega explicitly teaches the use of a silicone release layer, it would have been obvious through routine experimentation to one of ordinary skill in the art to modify the release layer to include any disclosed embodiment of Kessel et al., depending on the desired end product. Therefore, taking the teachings of both Rega and Kessel et al. as a whole, it would have been obvious to modify the release surface such that it comprised a coefficient of friction above 0.30.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Egan whose telephone number is 703-305-3144. The examiner can normally be reached on M-F, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 703-308-4251. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Brian P. Egan
4/21/03
Harold Y. Pyon
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772 4/23/03